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Secretary  
ATTN: Docketing and Services Branch  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

U.S. DEPARTMENT OF ENERGY (DOE) COMMENTS ON U.S. NUCLEAR REGULATORY COMMISSION (NRC) DRAFT "BRANCH TECHNICAL POSITION ON THE USE OF EXPERT ELICITATION IN THE HIGH-LEVEL RADIOACTIVE WASTE PROGRAM" (SCPB: N/A)

Reference: Ltr, Brocoum to Holonich, dtd 6/1/95

The DOE is in receipt of and has reviewed the subject draft Branch Technical Position (BTP) on expert elicitation, made available for public comment on February 28, 1996. Enclosed are the DOE's detailed comments on the draft BTP.

In general, the DOE finds that the principles and guidelines for conducting expert elicitations contained in the NRC's draft BTP are very similar to the DOE's principles and guidelines for formal use of expert judgement by the Yucca Mountain Site Characterization Office (YMSCO) during site characterization (reference).

Staff representatives from the NRC have been consistent observers during the several workshops held for YMSCO's most recent expert elicitation, the 1995 Probabilistic Volcanic Hazard Assessment (PVHA). We believe that the NRC's draft guidance substantially reflects the process used to structure and manage the PVHA expert elicitation.

The DOE's only major comment on the draft BTP centers on the possibility that the NRC will provide additional guidance on the use of elicitations in the area of performance assessment. We believe that additional guidance is unnecessary.

Less importantly, the front matter of the draft BTP (Sections 1 and 2) dwells on developmental attributes of elicitation practice and criticisms of past elicitations or expert judgement applications done by the NRC, the DOE, and other parties. This material tends to detract from the value of the draft BTP. Because the DOE is substantially in agreement with the guidance contained in draft BTP Sections 3 and 4, we suggest there is an opportunity for the NRC staff to focus on the process level expectations in Sections 3 and 4, condense the front matter significantly, and facilitate agreement between both agencies.

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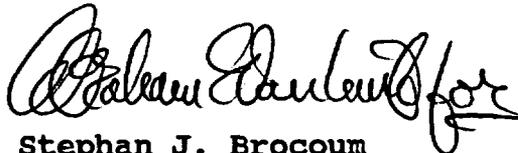
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Sections 3 and 4 of the draft BTP establish the expectation that DOE, as a potential license applicant, will provide documentation of expert elicitations that is thorough and transparent enough to provide objective evidence that permits an independent assessment by the NRC staff of the process used and the conclusions reached. The draft BTP also acknowledges that determining the circumstances and topics warranting an elicitation is the DOE's prerogative. The DOE acknowledges the responsibility to adequately describe the choices we make, the methods we use, and the results we obtain.

The DOE staff have discussed our preliminary comments with the NRC staff members who are responsible for preparing the draft BTP during a teleconference in mid-April 1996. We believe our written comments contain no surprises.

If you have any questions, please contact Thomas W. Bjerstedt of the Licensing Team at (702) 794-1362.



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Enclosure:  
DOE Comments on BTP

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**U.S. Department of Energy Comments On  
U.S. Nuclear Regulatory Commission's "Branch Technical  
Position On the Use of Expert Elicitation in the  
High-Level Radioactive Waste Program"**

The NRC's "Branch Technical Position on the Use of Expert Elicitation in the High-Level Radioactive Waste Program" provides guidance to develop a structured process to conduct formal expert elicitations. The DOE and the NRC seem to have consistent positions on the general steps that are appropriate for these structured exercises. The DOE has identified no substantive disagreements with respect to the process the NRC has outlined for elicitation and its associated documentation. The DOE followed each of the nine steps specified in the NRC's process while conducting its recently completed Probabilistic Volcanic Hazard Analysis for Yucca Mountain, Nevada (Geomatrix, 1996, draft report).

The DOE's only major comment on the Branch Technical Position centers on the possibility that the NRC may offer additional guidance on the use of expert elicitation in the area of performance assessment. We believe that additional guidance is unnecessary.

As stated in DOE's June 1, 1995, letter to NRC (reference), the DOE's elicitation process will identify and document the basis for any judgment, and this basis could include both site-specific information developed during site characterization (including qualitative, descriptive, and quantitative analytical information) as well as information from other relevant or similar settings.

**General Comments: Prescribed Use of Elicitations in the Area of Performance Assessment**

In Section 1.4 of the Branch Technical Position, the NRC is appropriately silent about the specific technical issues for which expert elicitation should or should not be applied, except in the area of performance assessment. The DOE would like clarification of why the staff believes they should consider additional guidance (page 11), "... to identify those specific aspects of a performance assessment for which the application of expert judgement may or may not be appropriate." The DOE believes that once the NRC staff have set out the process, as described in the Branch Technical Position, it is the applicant's prerogative to decide if and how its use is advantageous to support arguments for licensing.

DOE believes that the BTP may suggest generic circumstances when use of expert elicitation is appropriate, but that it is not appropriate to prescribe categories or topical requirements for these exercises. The DOE will have to balance many factors in selecting the topic and scope for expert elicitations. The DOE is currently evaluating the advisability of conducting expert elicitations in several areas supporting development of its Total System Performance Assessment (TSPA) for the Viability Assessment, including: scenario analysis and associated estimates of probability, parameter uncertainty and bounding case identification, and certain aspects of process model abstraction and conceptual model evaluation. The DOE's plans currently do not include an elicitation on the totality of the TSPA submittal forming the basis of a License Application. The DOE expects to discuss our future plans in this area with the NRC when our planning has matured.

DOE notes that development of prescriptive guidance for performance assessment is in conflict with the Branch Technical Position description (page 11) which states "... under appropriate circumstances, it is acceptable to supplement data and analyses with opinions of experts as part of the support for demonstrating compliance...." Decisions as to when or whether to conduct an elicitation exercise, the identification of specific issues or topics, or other "appropriate circumstances" are management prerogatives of the DOE. DOE is concerned with the potential for prescriptive definitions or circumstances that might limit management's alternatives or options to use expert elicitations as part of the technical basis for our compliance argument(s). DOE intends that any use of expert elicitations in the area of performance assessment be consistent with DOE's "Principles and Guidelines on the Formal Use of Expert Judgment by the Yucca Mountain Site Characterization Project Office" (reference).

### **Specific Comments**

The specific comments below (1-5) refer to format and content issues or subject headings that may be prescribed for BTPs. The DOE's theme in these comments is that, early on and for some length, they tend to focus the document on a look back instead of forward. The DOE's general concern is that together Sections 1.0 and 2.0 tend to cloud the points of agreement between the two agencies in Sections 3.0 and 4.0 by including and discussing tangential or marginal issues. Section 2.2 of the BTP is a good example.

1. Section 1.0:

The "Introduction" section is somewhat confusing because it is not clear whether the NRC's intent is to provide guidance on the generic use of expert elicitation (i.e., in any repository program) or restrict the guidance to the Yucca Mountain Project. It is also not clear to which part of the NRC this BTP applies.

**DOE suggestions:** Include a statement of Scope to describe the NRC's intentions in developing the Branch Technical Position--generic or project-specific guidance. A suitable description of Scope appears to be available (with minor modifications) in Section 4.0, Discussion, on pages 22 and 23.

Also, include reference to the Division of Waste Management, or the Branch(es) within it that are responsible for preparation of the BTP. This information is not obvious and only now occurs in the "Foreword".

2. Section 1.1:

The "Background" section is distracting. To revisit and critique DOE's past uses of expert judgement or prior elicitation recapitulates a comment record already made by the NRC on the DOE's past efforts and documentation. It distracts from the BTP's purpose in establishing expectations on how these exercises are performed in the future.

**DOE suggestion:** Delete this section or condense significantly.

3. Section 1.5:

The "Branch Technical Positions as Technical Guidance" section provides little value toward the purpose of the guidance, to establish process expectations for future elicitation applications.

**DOE suggestion:** Condense significantly or move the material in Section 1.5 either to front material such as a "Foreword", or an Appendix.

4. Section 2.1:

The last paragraph in the section is a good example of raising issues that are not relevant to the purpose of the BTP, i.e., establishing process expectations for expert elicitations. It refers to a past comment and response dialog on the DOE's Site Characterization Plan.

DOE suggestion: Delete the paragraph.

5. Section 2.2:

This section has little apparent relevance to the development of guidance for the use of expert elicitation, and only the last sentence in the entire section states the essence of the section that could bear the purpose of the BTP. The "Regulatory Framework" section, in general, is distracting and does not appear to be relevant to the purpose of the BTP as process guidance.

DOE suggestion: Delete Section 2.2; move the last sentence [with edits], "The technical positions cited in section 3.0 are consistent with the recommended process steps [from the NRC's staff's Probabilistic Risk Assessment Working Group.]" to an appropriate place in Section 3.0. Consider condensing Section 2.0; and especially Section 1.0 significantly.

6. Section 3.0:

Page 17, item 2(a), line 2: The inclusion of the word "defensible" in the description of the procedure includes a criterion whose definition is arbitrary until it can be determined whether the procedure was in fact successfully or unsuccessfully defended. Furthermore, "defensibility" or the "need to defend" are management considerations which are inappropriate topics for the guidance.

There are similar references to "defensible" in Section 4.0, p. 25, item (2) and p. 29, 3rd paragraph.

DOE suggestion: Revise these references to "defensible" to describe thoroughly documented processes.

7. Section 4.0:

Page 21, item (3) and page 36, "Technical Position 3": The time frame implied in the description on page 21 is not clear. One interpretation would indicate that expert judgment, expert elicitation, and peer review are intended to be snap-shots in time of the experts' views of the issue in question based on the information available at the time the exercise was conducted. An alternative interpretation would imply that the guidance envisions an elicitation process that is iterative and might never be completed if additional data were continuously available.

On page 36, the expectation for re-examining and updating the results of past elicitation to new, relevant data needs clarification. It is the DOE's prerogative and responsibility to ensure that the materials submitted to the NRC for a licensing action are current. When new information becomes available the DOE will evaluate and document its relationship to the assumptions and range variation established in prior elicitation. It is not necessary, however, for the BTP to establish expectations for how an elicitation is re-evaluated in light of new information, beyond the means being well documented.

DOE suggestion: Use wording that does not imply a process-specific means of re-examining the results of a prior elicitation in light of new data.

8. Section 4.0:

Page 26, 2nd full paragraph, lines 6-9: The staff's expectations with regard to the use of subject-matter experts to better define the objective of the elicitation are not clear. Using subject matter experts to define the objectives of the elicitation on which they have been asked to participate, represents a potential to create conflicts of interest--especially financial and professional conflicts of interest. Discussion of the same consideration on page 30 is clear and does not contain the apparent ambiguities found in the discussion on page 26.

DOE suggestion: Delete the sentence "What this figure shows, ... into its constituent parts (Step No. 3)." to remove this ambiguity and potential inconsistency that could create a conflict of interest.

9. **Appendix C:**

**This Appendix is relevant only to section 2.2 of the draft Branch Technical Position.**

**DOE suggestion: Delete Appendix C if Section 2.2 is deleted as suggested.**